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NIXON & VANDERHYE, PC
1100 N GLEBE ROAD
8TH FLOOR
ARLINGTON, VA 22201-4714

EXAMINER

KAUSHAL, SUMESH

ART UNIT PAPER NUMBER

1636

DATE MAILED: 05/08/2003

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/782,051

Applicant(s)

HART, DEREK N.J.

Examin r

Sumesh Kaushal Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 1-3 and 13-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-12 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02/14/01 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12,10. 6) ☐ Other: _____

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DETAILED ACTION

Applicant's response filed on 02/05/03 has been acknowledged.

Election/Restrictions

Applicant's election without traverse of Group II claims 4-12 and 18 in Paper No. 16 is acknowledged.

Claims 1-3 and 13-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 16.

Claims 4-12 and 18 are examined in this office action.

► Applicants are advised to follow Amendment Practice under revised 37 CFR §1.121 (<http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/revamdtprac.htm>). Each amendment document that includes a change to an existing claim, or submission of a new claim, **must include a complete listing of all claims** in the application. After each claim number, the status must be indicated in a parenthetical expression, and the text of each claim under examination (with markings to show current changes) must be presented. The listing will serve to replace all prior versions of the claims in the application.

Information Disclosure Statement

1. Even though the PTO-1449 submitted on 03/18/02 and 10/11/01 has been considered, these PTO-1449 forms are not in a proper format. 37 CFR 1.98(b5) requires a list of all patents, publications, or other information submitted for consideration by the Office, wherein "Each publication listed in an information disclosure statement must be identified by publisher, author (if any), **title**, relevant pages of the publication, date, and place of publication". See MPEP § 609 (37 CFR 1.98b, *Content of information disclosure statement*). In instant case the PTO-1449 submitted by the applicant does not include **full title** of all the publications listed. Appropriate correction is required.

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Priority

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in New Zealand (NZ 299507) on 10/04/1996. It is noted, however, that applicant has not filed a certified copy of the NZ 299507 application as required by 35 U.S.C. 119(b).

Claim Objections

3. Claim 4-12 are objected to because of the following informalities: The claim 4, 9 and 12 depends upon claim 1 that belongs to a non-elected group, substituting SEQ ID NO:1 in place of "claim 1" has been suggested. Appropriate correction is required.

Claim 6 is objected to because it fails to recite the required SEQ ID NO to the claimed nucleotide sequences. Substituting SEQ ID NO:1 in place of "figure-1" has been suggested. Appropriate correction is required.

Claims 10 is objected because it does not further limits claim 9, which requires that the ORF be in 5'-3' orientation, which is implicitly in "sense" orientation. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 4-12 and 18 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either **a specific asserted utility or a well-established utility**.

The instant claims are drawn to an isolated DNA sequence, which encodes an enzyme having AHCY-type activity or a functional portion or a equivalent thereof. Claims are drawn to a DNA sequence comprises nucleotides 529-945, 549-1844 or 1-1844 of SEQ ID NO:1. Claims are further drawn to a DNA construct comprising DNA sequence encoding an enzyme having AHCY-type activity. Claims are further drawn to a DNA construct that comprises an open reading frame coding for at least a functional portion of enzyme encoded by SEQ ID NO:1.

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Claims are further drawn to a DNA construct that comprises non-coding region of a gene coding according to SEQ ID NO:1.

The specification asserts that the nucleic acid as claimed encodes a polypeptide that has AHCY-type activity. The specification teaches that nucleotide sequence of SEQ ID NO:1, DD4b5.3 (573-1845) has 52% amino acid similarity to human AHCY sequences and shares many conserved features critical for AHCY function (spec. page 3, lines 21-27, fig-2 and 3). The specification further teaches that the mRNA expression of AHCY-like polypeptide in various cell lines and normal cell populations (spec. page 12-13, table 1 and 2). Based upon amino acid sequence similarities the instant specification concluded that the invention as claimed relates to an AHCY-type enzyme activity.

However the instant invention is not considered to have a specific and/or substantial utility, since the instant specification fails to establish that that the disclosed polynucleotide sequences encodes an amino acid which has AHCY-like activity explicitly or implicitly as putatively considered by the instant specification. The asserted enzyme AHCY-like activity is mere a computer-generated hypotheses, since no biological function has been established for the nucleotides of SEQ ID NO:1. The specification fails to disclose any functional assay that would enable one skill in the art how to evaluate the biological activity of the AHCY-like enzyme encoded by the claimed nucleotide sequences. In addition the specification fails to establish any nexus between a disease and the claimed AHCY-like activity. Therefore it is unclear how one skill in the art would use invention as claimed.

The office sequence search using the disclosed amino acid sequences provided matches with a AHCY-like protein (Human SAHH, AC:W90061, US5854023), but with only 80.7% similarity with amino acid sequences encoded by SEQ ID NO:1. Further inspection of the comparison shows limited if any areas of conservation between the two sequences. The state of art at the time of filing teaches that even though DD4b5.3 (SEQ ID NO:1) encodes an AHCY-like molecule the gene structure differs from that of AHCY (Dekker et al, Immunogenetics 53:993-1001, 2002., see page 998, col.2 para.2). Furthermore, the differences between AHCY and DCAL (encoded by SEQ ID NO:1) protein and gene structure strongly suggest that DCAL has a different substrate (page 1000, col.2 , para 4). Considering the state of art and lack of specific guidance in the instant specification it is unclear how one skill in the art would use the

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invention as claimed, since the specification fails to disclose a single functional assay for the enzyme activity encoded by the nucleotide sequences of SEQ ID NO:1. In addition, the scope of invention as claimed encompasses any and all functional variants of nucleotide sequences encoding AHCY-like activity. The variations as claimed encompasses the conserved motifs that are germane to the AHCY-like biological activity. It is general knowledge in the art that even conservative amino acid substitutions can adversely affect proper folding and biological activity if amino acids that are critical for such functions are substituted, and the relationship between the sequence of a polypeptide and its tertiary structure is neither well understood nor predictable. The mere identification of critical regions would not be sufficient, as the ordinary artisan would immediately recognize that the encoded polypeptide must assume the proper three-dimensional configuration to be active, which is dependent upon the surrounding residues. see Ngo, in *The Protein Folding Problem and Tertiary Structure Prediction*, Merz et al. (eds.), Birkhauser Boston: Boston, MA, pp. 433 and 492-495, 1994). Rudinger (in *Peptide Hormones*, Parsons (ed.), University Park Press: Baltimore, MD, pp. 1-7, 1976). Therefore, considering the applicant's disclosure and the state of art the asserted use for the claimed invention is not supported by either a specific and/or substantial utility, since no function could be ascribed to the gene product.

In addition, the instant specification does not comply with 35 U.S.C. 101 and 112 since nebulous expressions "biological activity" and "biological properties" do not contain a sufficiently explicit indication of usefulness of compounds and how to use them. The utility requirements must be met at the time of filing and not after someone else identify a utility that had not been disclosed in the specification. The disclosure is insufficient where experimentation is necessary to determine actual uses, or possible lack of uses, of compounds, as well as how to employ them in a useful manner. For example, it cannot be presumed that a steroid chemical compound is "useful" under 35 U.S.C. 101, or that one skilled in the art will know "how to use" it, simply because compound is closely related only in a structural sense to other steroid compounds known to be useful (In re Kirk and Petrow, 153 USPQ 48 (CCPA 1967)). In instant case the mere presence of AHCY-like domain does not teach one skill in the art how to use the claimed invention, since the disclosure is insufficient and requires further experimentation necessary to determine actual uses or possible lack of uses of the encoded polypeptide, as well as how to employ them in a useful manner. It cannot be presumed that a AHCY-like domain

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bearing polypeptide is useful under 35 USC 101/112 or that one skilled in the art will know "how to use" it, simply because polypeptide is closely related only in a structural sense to other AHCY-like proteins known to be useful.

In view of the foregoing, one skilled in the art would not readily attribute any particular AHCY-like activity encoded by the instant nucleic acid in view of the low sequence similarity and the lack of sequence conservation therein. Therefore, the asserted use for the claimed invention is not supported by either a specific and/or substantial utility, since no function can be ascribed to the gene product. The only immediate apparent utility for the instant invention would be further scientific characterization of the claimed amino acid sequences a putative AHCY-like activity.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 4-12 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Nature Of Invention:

Invention relates to a DNA sequence encoding an AHCY-like enzyme activity.

Breadth Of Claims And Guidance Provided By The Inventor:

The instant claims are drawn to an isolated DNA sequence, which encodes an enzyme having AHCY-type activity or a functional portion or a equivalent thereof. Claims are drawn to a DNA sequence that comprises nucleotides 529-945, 549-1844 or 1-1844 of SEQ ID NO:1. Claims are further drawn to a DNA construct comprising DNA sequence encoding an enzyme having AHCY-type activity. Claims are further drawn to a DNA construct that comprises an

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open reading frame coding for at least a functional portion of enzyme encoded by SEQ ID NO:1. Claims are further drawn to a DNA construct that comprises non-coding region of a gene coding according to SEQ ID NO:1. In addition the claims are drawn to a nucleic acid probe capable of hybridizing under high stringency conditions to the nucleotide sequences of SEQ ID NO:1.

The specification asserts that the nucleic acid as claimed encodes a polypeptide that has AHCY-type activity. The specification teaches that nucleotide sequence of SEQ ID NO:1 or DD4b5.3 (573-1845) has 52% amino acid similarity to human AHCY sequences and shares many conserved features critical for AHCY function (spec. page 3, lines 21-27, fig-2 and 3). The specification further teaches that the expression of such AHCY-like polypeptide in various cell lines and normal cell populations (spec. page 12-13, table 1 and 2). Based upon amino acid sequence similarities the instant specification concluded that the invention as claimed relates to an AHCY-type enzyme activity.

However, the instant specification fails to establish that that the disclosed polynucleotide sequences encodes an amino acid sequences which has AHCY-like activity explicitly or implicitly as putatively considered by the instant specification. The asserted enzyme AHCY-like activity is mere a computer-generated hypotheses, since no biological function has been established for the nucleotides of SEQ ID NO:1. The specification fails to disclose any functional assay that would enable one skill in the art how to evaluate the biological activity of the AHCY-like enzyme encoded by the claimed nucleotide sequences. In addition the specification fails to establish any nexus between a disease and the claimed AHCY-like activity. It is unclear whether the disease in question would be the result of the loss of AHCY-activity or is the result of altered protein function. It is even unclear whether the treatment of the disease associated with the polypeptide as claimed would require increase or decrease in the expression of the AHCY-like activity. Even though the specification teaches the nucleotide sequence of SEQ ID NO:1, the specification fails to define the open reading frame with a stop codon and the identification of an initiation of codon in SEQ ID NO:1. The specification even fails to disclose a single nucleotide sequence, which represent a complement, reverse complement and/or a reverse sequence base upon AHCY-like enzyme activity of the nucleotide sequence as claimed. The specification fails to teach any and all open reading frames in a sense or an anti-sense orientation encoding a gene that have AHCY-like enzyme activity. In addition the specification fails to

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define any non-coding region in the nucleotide sequences of SEQ ID NO:1. Furthermore the instant specification fails to teach any use of the claimed "reverse complement and reverse sequences", since these sequences would not hybridize to SEQ ID NO:1 or its complement. In addition, the specification fails to define the high stringency conditions for any and all nucleotide sequence(s) that hybridize to polynucleotide encoding SEQ ID NO: 1. The specification fails to define the salt concentration in the hybridization and washing buffers. In addition, the specification fails to disclose a set of temperature conditions specifically required for high stringency hybridization and washing steps. It is not clear how one skilled would use any set of hybridization conditions to form a detectable hybridization complex. On the other hand, the specification fails to disclose that any and all set of hybridization conditions would result in the detection of polynucleotide encoding SEQ ID NO:1 using the labeled nucleic acid probe as claimed. Therefore considering the applicant's disclosure it is unclear how one skill in the art would use the invention as claimed.

State Of Art And Predictability:

The office sequence search using the disclosed amino acid sequences provided matches with a AHCY-type activity-like protein (Human SAHH), but with only 83% similarity with amino acid sequences encoded by SEQ ID NO:1. Further inspection of the comparison shows limited if any areas of conservation between the two sequences. The state of art at the time of filing teaches that even though DD4b5.3 (SEQ ID NO:1) encodes an ACHY-like molecule the gene structure differs from that of AHCY (Dekker et al, Immunogenetics 53;993-1001, 2002., see page 998, col.2 para.2). Furthermore, the differences between AHCY and DCAL (encoded by SEQ ID NO:1) protein and gene structure strongly suggest that DCAL has a different substrate (page 1000, col.2 , para 4). Considering the state of art and lack of specific guidance in the instant specification it is unclear how one skill in the art would use the invention as claimed, since the specification fails to disclose a single functional assay for the enzyme activity encoded by the nucleotide sequences of SEQ ID NO:1. In addition, the scope of invention as claimed encompasses any and all functional variants of nucleotide sequences encoding AHCY-like activity. The variations as claimed encompasses the conserved motifs that are germane to the AHCY-like biological activity. It is general knowledge in the art that even conservative amino acid substitutions can adversely affect proper folding and biological activity if amino acids that

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are critical for such functions are substituted, and the relationship between the sequence of a polypeptide and its tertiary structure is neither well understood nor predictable. The mere identification of critical regions would not be sufficient, as the ordinary artisan would immediately recognize that the encoded polypeptide must assume the proper three-dimensional configuration to be active, which is dependent upon the surrounding residues. see Ngo, in *The Protein Folding Problem and Tertiary Structure Prediction*, Merz et al. (eds.), Birkhauser Boston: Boston, MA, pp. 433 and 492-495, 1994). Rudinger (in *Peptide Hormones*, Parsons (ed.), University Park Press: Baltimore, MD, pp. 1-7, 1976). Therefore considering the state of art and the limited amount of guidance provided in the specification is unpredictable that the claimed nucleotide sequences encodes an enzyme that has AHCY-like activity.

Quantity Of Experimentation Required:

In instant case determining biological activity of a polypeptide based upon a low sequence similarity is not routine in the art and without sufficient guidance to a specific functional assay experimentation left to those skilled in the art is unnecessarily, and improperly, extensive and undue. See *In re Wands* 858 F.2d 731, 8 USPQ2d 1400 (Fed. Cir, 1988). It is noted that the unpredictability of a particular area may alone provide reasonable doubt as to the accuracy of the broad statement made in support of enablement of claims. See *Ex parte Singh*, 17 USPQ2d 1714 (BPAI 1991). Therefore, one skilled in the art would have to engage in excessive and undue amount of experimentation to exercise the invention as claimed. The quantity of experimentation required would include the functional characterization of polypeptide encoded by SEQ ID NO: 1 as a protein having AHCY-like activity and use thereof.

6. Claims 4 and 8-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had **possession of the claimed invention**.

The scope of invention as claimed encompasses a DNA sequence or a vector comprising the DNA sequence wherein the DNA encodes an AHCY-like enzyme or a functional portion or

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equivalent thereof. The scope of invention as claimed encompasses a DNA construct comprising an open reading frame for at least a functional portion of an ACHY-like enzyme. The scope of invention as claimed encompasses a DNA construct comprising a non-coding region of a gene coding for an ACHY-like enzyme.

Applicant is referred to the Interim guidelines on Written Description published December 21, 1999 in the Federal Register, Vol. 64, No. 244, pp. 71427-71440. The disclosure of a single species is rarely, if ever, sufficient to describe a broad genus, particularly when the specification fails to describe the features of that genus, even in passing. (see *In re Shokal* 113USPQ283(CCPA1957); *Purdue Pharma L. P. vs Faulding Inc.* 56 USPQ2nd 1481 (CAFC 2000). At best the specification discloses the nucleotide sequence of SEQ ID NO:1. The specification fails to define the open reading frame with a stop codon and the identification of an initiation of codon in SEQ ID NO:1. In addition the specification fails to disclose any functional assay that is specific for the claimed ACHY-like activity as putatively considered by the applicant. Even though DD4b5.3 (SEQ ID NO:1) encodes an ACHY-like molecule the gene structure differs from that of AHCY (Dekker et al, *Immunogenetics* 53;993-1001, 2002., see page 998, col.2 para.2). The differences between AHCY and DCAL (encoded by SEQ ID NO:1) protein and gene structure strongly suggest that DCAL has a different substrate (page 1000, col.2, para 4). The instant specification even fails to disclose a functional assay that would enable one skill in the art to use the invention as claimed. Since the specification fails disclose any open reading frame in the claimed nucleotide sequences it is unclear what comprise a complement, reverse complement and/or reverse sequence in this context, wherein the nucleotide encodes an AHCY-like enzyme activity. Similarly the specification fails to disclose any open reading frames in a sense or an anti-sense orientation encoding a gene that have AHCY-like enzyme activity. In addition the specification fails to define the non-coding regions of a gene comprising SEQ ID NO:1. The general knowledge in the art concerning AHCY-like proteins encoded by the nucleotide sequence of SEQ ID NO:1 does not provide any indication as how the structure of one allele is representative of other unknown amino acid sequences having concordant or discordant functions. The common attributes of all AHCY-like proteins are not described, and identifying attributes of variants other than SEQ ID NO:1 as claimed has not been described.

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Furthermore, the possession may be shown by actual reduction to practice, clear depiction of the invention in a detailed drawing, or by describing the invention with *sufficient relevant identifying characteristics* (as it relates to the claimed invention as a whole) such that a person skilled in the art would recognize that the inventor had possession of the claimed invention (*Pfaff v. Wells Electronics, Inc* 48 USPQ2d 1641, 1646 (1998)). The disclosure of a single species is rarely, if ever, sufficient to describe a broad genus, particularly when the specification fails to describe the features of that genus, even in passing. (*see In re Shokal* 113USPQ283(CCPA1957); *Purdue Pharma L. P. vs Faulding Inc.* 56 USPQ2nd 1481 (CAFC 2000)). In claims to genetic material, generic statement such as "vertebrate insulin cDNA" or "mammalian insulin cDNA," without more, is not adequate written description of claimed genus, since it does not distinguish genus from others except by function, and does not specifically define any of genes that fall within its definition, or describe structural features commonly possessed by members of genus that distinguish them from others; accordingly, naming type of material generally known to exist, in absence of knowledge as to what that material consists of, is not description of that material (*Eli Lilly, 119 F.3d at 1568, 43 USPQ2d at 1406*). In the instant case the nucleotide sequences encoding an ACHY-like polypeptide (as claimed) has been defined only by a statement of function of ACHY-like activity, which conveyed no distinguishing information about the identity of the claimed DNA sequence, such as its relevant structural or physical characteristics. According to these facts, one skill in the art would conclude that applicant was not in the possession of the claimed genus because a description of only one member of this genus is not representative of the variants of genus and is insufficient to support the claim.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claims 11 is indefinite because the instant claim makes no sense in context of claim 9, which requires that the open reading frame be in 5'-3' direction, which is the reverse orientation for the ORF.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 18 rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hillier et al (Gen. Bank Acc. No. W00331, 04/15/96). The cited art teaches nucleic sequences which is 99% identical to nucleotide 1051-1435 of instant SE ID NO:1 (see PTO sequence search report). Thus the cited art clearly anticipated a probe capable of hybridizing to SEQ ID NO:1.

Conclusion

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sumesh Kaushal Ph.D. whose telephone number is 703-305-6838. The examiner can normally be reached on Mon-Fri. from 9AM-5PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yucel Irem Ph.D. can be reached on 703-305-1998. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-4242 for regular communications and 703-308-8724 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

S. Kaushal
Patent examiner



SUMESH KAUSHAL
PATENT EXAMINER